

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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European Pine Sawfly

European pine sawfly, *Neodiprion sertifer* larvae are out-and-about feeding on the foliage of pine trees. Young larvae are 1/4 inch in length and olive-green in color with a black head. Older larvae are >1.0 inch long with green stripes. The larvae are extremely gregarious or feed in groups on the needles of a variety of pines including Scotch, red, and mugo pine. Larvae will strip the needles of mature foliage, leaving only the central core, which is white and then turns brown; eventually falling off. The larvae generally complete feeding by the time needles emerge from the candelabra. Therefore, those needles are not damaged. There really is only a minor threat of branch or tree death resulting from sawfly larval feeding. However, the loss of second- and third-year needles may be noticeable on landscape trees thus ruining their appearance. In late spring, the larvae drop to the ground and pupate in brown, leathery cocoons at the base of trees. Wasp-like adults emerge in fall and lay eggs in the needles before winter. There is one generation per year in Kansas.



Although sawfly larvae look like caterpillars—they are not caterpillars (Order: Lepidoptera). Sawflies are related to ants, bees, and wasps (Order: Hymenoptera). The best way to tell a sawfly larva from a caterpillar is by the following: 1) sawfly larvae have prolegs on every abdominal segment whereas caterpillars are missing

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prolegs and 2) caterpillar larva have hairs or crochets on their feet whereas sawfly larva do not have hairs or crochets on their feet.



In terms of suppression, since sawfly larvae are not caterpillars, the bacterial insecticide, *Bacillus thuringiensis* subsp. *kurstaki* (sold as Dipel and other formulations) will not directly kill sawfly larvae. Management of sawfly larvae involves hand-picking (you can wear gloves if you wish) or dislodging larvae from plants by using a forceful water spray. If necessary, there are a number of insecticides that may be applied to suppress populations of the European pine sawfly including acephate (Orthene), azadirachtin, carbaryl (Sevin), spinosad (Captain Jack's DeadBug Brew or Conserve), and any pyrethroid-based insecticide with the following active ingredients: bifenthrin,

cyfluthrin, and lambda-cyhalothrin. For more information regarding European pine sawfly management contact your county or state extension specialist.

Eastern Tent Caterpillar

The egg masses of the eastern tent caterpillar, *Malacosoma americanum*, have hatched and the larvae (caterpillars) are feeding on plants. After hatching, the caterpillars create distinct white, silken tents or nests in the branch crotches of trees and shrubs including crabapple, hawthorn, mountain ash, and flowering cherry. Eastern tent caterpillar is one of our earliest defoliators, and although the feeding damage may not initially kill a plant, it may reduce the plants ability to produce food, thus increasing susceptibility to secondary pests such as wood-boring insects. Eastern tent caterpillar overwinters as an egg mass attached to the branches of small twigs.

It is really easy to just physically remove the silken nests by hand (if you are somewhat squeamish about this you can wear gloves) or use a rake to destroy the silken nest or forceful water spray to "blast" the silken nest from plants (kids will love this). Any exposed caterpillars may be consumed by birds lurking nearby. Caterpillars are active during the day-time and reside in their silken nest during the evening. It is during the day-time that caterpillars emerge from the silken nest and feed on plant leaves. On over-cast days the caterpillars will be inside the silken nest.



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Sprays of *Bacillus thuringiensis* subsp. *kurstaki* (Dipel and other formulations) are effective when the caterpillars are small. Once the caterpillars are mature (approximately 2.0 inches long), then other insecticides will have to be applied such as acephate (Orthene), carbaryl (Sevin), spinosad (Captain Jack's DeadBug Brew or Conserve), and any pyrethroid-based insecticide with the active ingredients: bifenthrin, cyfluthrin, and lambda-cyhalothrin). For more information regarding Eastern tent caterpillar management contact your county or state extension specialist.

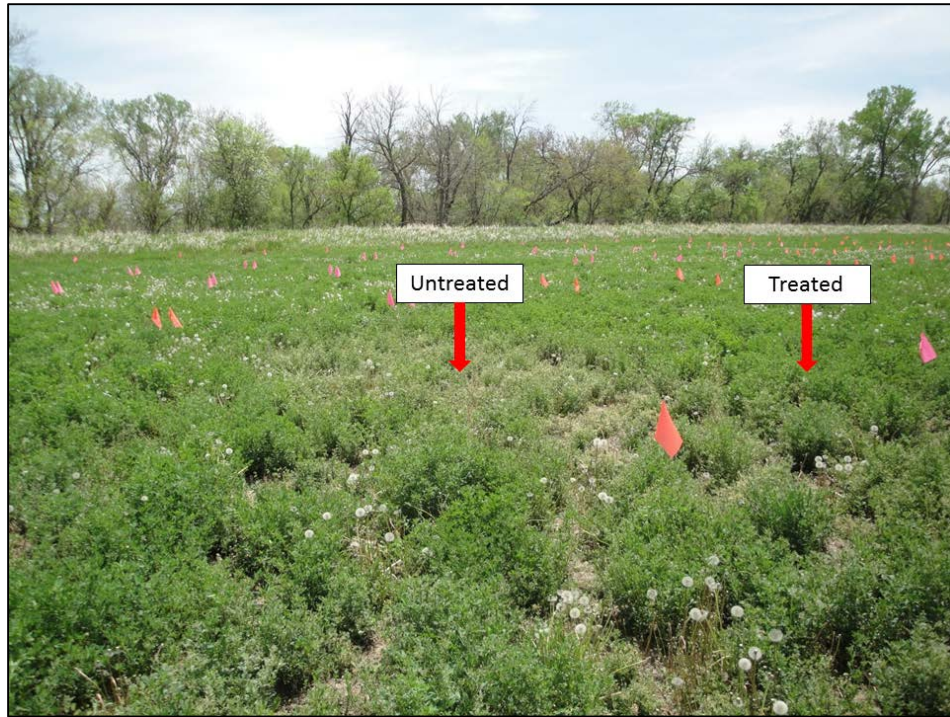
Both Articles Submitted By: Raymond A. Cloyd

Alfalfa Weevil Update

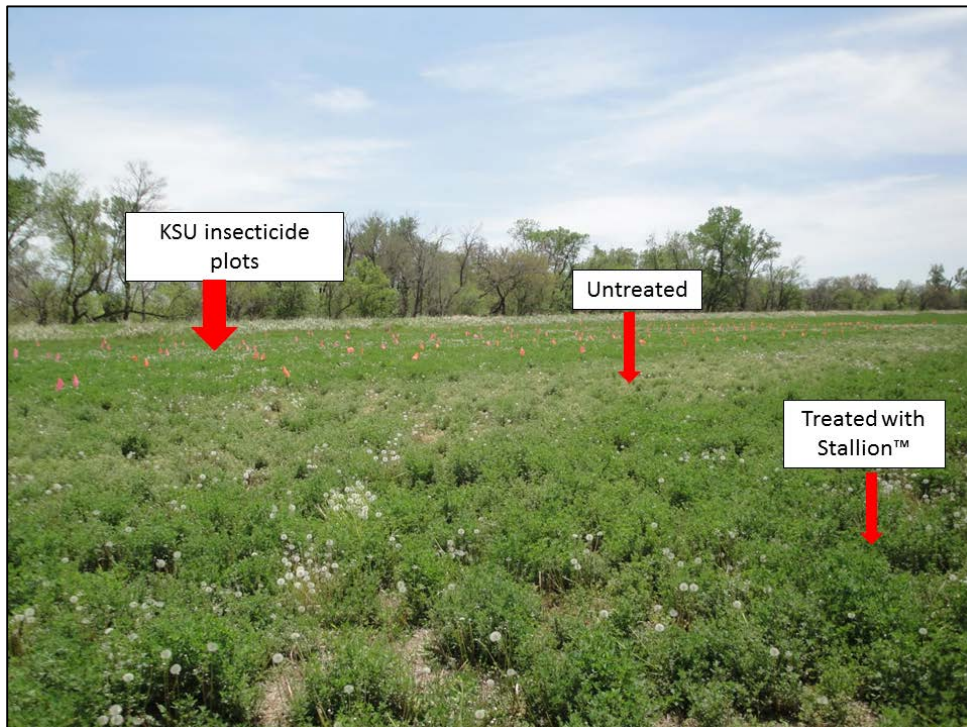
Alfalfa weevils are still predominately in the larval stage in north central Kansas. We have found a few pupae for the last two weeks. However, as of 8 May, the majority of the weevil population was still in the 3rd (final) instar and still actively feeding. This year's weevil activity started about 31 March when the 1st larvae started feeding, and has continued somewhat longer than usual, as it is still active. However, most fields treated after 20 April are still well protected as egg laying/hatching is mostly over. Treatments applied earlier than 20 April may require another application, so these fields should be closely monitored for another 7-10 days. All insecticides have offered some protection (see photo 1), even though the pre-treatment infestation level in these plots was 100+% and eggs hatched over a 10 day period.

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It is obvious an insecticide application was necessary this year, as it is in most years, to swath any tonnage for the 1st cutting, otherwise that 1st cutting will be donated to the alfalfa weevil. Also, to get a good view of how effective a well-timed application can be for this year see photo 2.



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This is a photo of the KSU insecticide plots on the left, with the flags, and a 10 ft. area left untreated by the commercial applicator, in this case MKC, that treated the rest of the field with Stallion™. This is a very good representation of how important insecticides are to protecting the 1st crop of alfalfa from alfalfa weevil every year.

Wheat Aphids – Chinch Bugs

Anybody detecting any wheat aphids please call or email us ASAP! We have the capability of detecting Barley Yellow Dwarf Virus in aphids and would offer that service to anyone that has an infestation of aphids in wheat. The aphids must be alive when we receive them however, so please let us know and we will send out mailing tubes with mailing instructions, or may even possibly come to collect some.

Also, monitor wheat fields as these fields start to turn golden for chinch bugs. One chinch bug/ft.² in wheat will cause problems to any seedling sorghum or corn planted in adjacent fields.

Jeff Whitworth

Holly Davis-Schwarting

Chapter 4: Brownheaded Ash Sawfly – The “book” is rapidly coming to an end.

From pinholes



April 24

to nibbles



April 30

to, “Where-are-the-leaves?” sawfly larvae are fast approaching the finish line.

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Sawfly larvae develop rapidly. Last week's 1-cm larvae currently measure 1.5-cm. But more impressive is their increased mass ---- pudgy and "hungry"!



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It was interesting to note the readily evident presence of sawfly larvae. Last week, they were unseen. This week, the sidewalks and ground beneath the infested trees were covered with fecal pellets/frass/poop, as well as the larvae themselves. I am not sure exactly why they were falling out of the trees. Perhaps simply because they had consumed the immediate food/foliage upon which they were feeding. Unlike some sawfly species (like European pine sawflies) which are gregarious, remain on the plant, and move en masse to the next available terminal after depleting their previous terminal, I assume that the brownheaded ash sawflies simply dropped to the ground. Thus the need to ascend trees (as they were doing) to return to foliage to resume and complete their feeding requirements.



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Tuesday Evening + Toro Lawn Mower + The Dentist = Eastern Tent Caterpillars

As I wrote the intro to this item, it brought to mind an entertainment routine where the performers request 3 words from randomly selected categories --- they then ad lib a routine in which (at some point) the words are incorporated.

Tuesday evening, I was busy with my Toro lawn mower. I passed under a low branch of my flowering crab. A moment later, I felt something crawling on my neck --- a mature eastern tent caterpillar. Wednesday morning as I sat in my dentist's chair, he related that the previous night, he was spraying caterpillars on the ground beneath his "apple trees". Those would have been eastern tent caterpillars. The point being, that despite a slightly late 2014 start, eastern tent caterpillars are ending their feeding phase on schedule.

Mature caterpillars have the habit of dispersing, wandering in search of a place to create their cocoons which are covered with a yellow powdery material (quite irritating to a person's eyes --- at least mine). Inside of the cocoon, the caterpillar pupates.

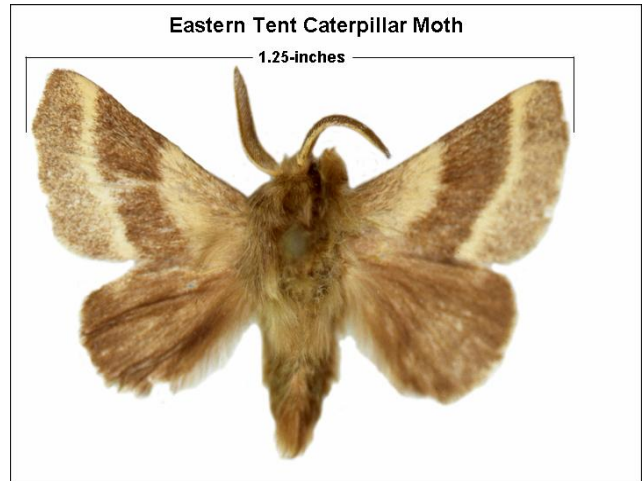
Sometimes larvae remain in close proximity to each other and make a sort of "communal cocoon".



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Moth emergence follows in late May-early June. Soon, after mating, egg masses are produced – they survive the summer heat and winter cold, to hatch the following spring.



As with all early-season defoliating species, while damage might be startling, it is inconsequential. This is the time of year with maximum production of foliage for deciduous trees. Bare areas/branches soon fill in, and a tree's "full" appearance is restored.



The Other Early-Season Regular – European Pine Sawflies

EPS also are finishing “on schedule” despite their delayed start. My favorite “victim” has again been denuded, its appearance definitely not going to win any Blue Ribbon Awards.



Despite its sparse appearance, this Mugo is far-from-being-dead. Larvae are completing their feeding cycle, which just precedes “candling” and the production of current-season needles. In fact, many larvae already have dropped to the ground and wandered away to begin their pupation process.



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Within their cocoons (usually encrusted with debris – in this instance fecal pellets), larvae enter and remain relatively inactive during the remainder of the Spring and throughout the summer. Actual pupation occurs in the Fall. Sawflies emerge and mate. Females then insert eggs into needles where they overwinter.



A Flurry of Wings? “Miller Moths”

“Miller moths” is a generic term used to describe various species of plain brown drab moth. Because their wings are covered with scales, they produce “dust” as they flit about.

Upon close examination, it can be seen that moths (in fact) have very distinctive wing patterns beyond the plain, brown and drab generic descriptor.

In particular, army cutworm moths (*Euxoa auxillaris*) illustrate the variability of moths. There are 5 morphological forms of army cutworm moths. Each possesses its own intricate and distinctive wing pattern. Adding more variety, brown specimens of each are males, whereas grayish individuals are females.



As of Monday, army cutworm moths have been active as recorded in blacklight traps in the Manhattan area. This is not surprising given the reports of army cutworm activities in wheat (and in one instance) canola, especially in western Kansas. Their current appearance is in sync with the cessation of larval feeding activities and their completion of pupation.

With the approach of daylight, army cutworm moths seek shelter/cover in any conceivable space: a car window left open overnight is an example – and when one gets ready to drive to work, he/she will be greeted by a flurry of excited moths; open a polycart to deposit a trash bag and you may be greeted by a rush of moths; take an early morning walk and as you pass a line of shrubs, you may be startled by hundreds of excited moths darting out; and so on. In homes, catch or swat a moth on your wall or curtains/sheers and you will find a coating of the aforementioned “dust”/wing scales left behind.



Because moths can exploit very small openings, it is virtually impossible to exclude moths from entering homes/buildings. However, the nuisance period is short-lived. Simply, as if by magic, moths quickly disappear. On an unknown cue, moths from the entire central plains region form massive westward flights to the Rocky Mountains. Feeding throughout the summer at the cooler higher elevations, moths become sexually mature and

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also accumulate fat reserves. By fall, moths migrate back to the central plains. Each female moth is capable of producing between 1000 – 3000 eggs. Larvae emerge and begin feeding. Partially grown larvae are then the overwintering stage of the species.

Bob Bauernfeind

Insect Diagnostic Laboratory Report

<http://entomology.k-state.edu/extension/diagnostician/recent-samples.html>

Eva Zurek

Sincerely,

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